APR/FY06

SCHOFIELD BARRACKS

Hawaii

Army Defense Environmental Restoration Program Installation Action Plan

Final 8 July 2006

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Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multi-year Cleanup Program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern, and proposes a comprehensive, installation-wide approach, with associated costs and schedules, to conduct investigations, necessary remedial actions.

In an effort to coordinate planning information between the restoration manager, US Army Environmental Center (USAEC), Schofield Barracks, Installation Management Agency-Pacific Area Regional Office (IMA-PARO), executing agencies, regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules, and budgets for all major Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is therefore subject to change.

The following agencies contributed to the formulation and completion of this Installation Action Plan during a planning workshop held on 24-27 April 2006:

Installation/Company/Branch
USAEC
Booz Allen Hamilton for USAEC
Engineering & Environment, Inc. for USAEC
Engineering & Environment, Inc. for US Army Garrison Hawaii
US Army Garrison Hawaii
ICI for USAEC
DIMCO for US Army Engineer Research and Development Center
State of Hawaii Department of Health, HEER Office

Acronyms & Abbreviations

AEDB-R	Army Environmental Database - Restoration
AOC	Area of Concern
BRAC	Base Realignment & Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CTC	Cost-To-Complete
DA	Department of the Army
DCE	dichloroethylene
DERA	Defense Environmental Restoration Account (currently called ER,A)
DERP	Defense Environmental Restoration Program
DOD	Department of Defense
DOH	Department of Health
DPW	Directorate of Public Works
DSERTS	Defense Site Environmental Restoration Tracking System
DSMOA	Defense/State Memorandum of Agreement
EPA	Environmental Protection Agency
EPIC	Environmental Photographic Interpretation Center
ER,A	Environmental Restoration, Army (formerly called DERA)
FFA	Federal Facilities Agreement
FIT	Field Inspection Team
FS	Feasibility Study
FUDS	Formerly Used Defense Sites
FY	Fiscal Year
IAP	Installation Action Plan
IAW	In accordance with
IMA-PARO	Installation Management Agency-Pacific Area Regional Office
IRA	Interim Remedial Action
IRP	Installation Restoration Program
KMR	Kahauiki Military Reservation
LUST	Leaking Underground Storage Tank
LTM	Long Term Management
MCL	Maximum Contaminant Level
MMRP	Military Munitions Response Program
msl	mean sea level
NCO	Non Commissioned Officer
NE	Not Evaluated
NFA	No Further Action
NFRAP	No Further Remedial Action Planned
NPL	National Priority List
OE	Ordnance and Explosives
OU	Operable Unit
PA	Preliminary Assessment
PBC	Performance Base Contract
PCB	Polychlorinated Biphenyls

Acronyms & Abbreviations

PCE	Tetrachloroethylene
POL	Petroleum, Oil & Lubricants
ppb	Parts per billion
RA	Remedial Action
RA(C)	Remedial Action – Construction
RA(O)	Remedial Action - Operations
RAB	Restoration Advisory Board
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
REM	Removal Action
RI	Remedial Investigation
RIP	Remedy in Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SB	Schofield Army Barracks
SDWA	Safe Drinking Water Act
SI	Site Inspection
SVOC	Semi-Volatile Organic Compounds
TAL	Target Analyte List
TAPP	Technical Assistance for Public Participation
TBA	Tert-Butyl Alcohol
TCE	Trichloroethylene
TCL	Target Compound List
TI	Technical Impracticability
TRC	Technical Review Committee
TSCA	Toxic Substance Control Act
USAEC	United States Army Environmental Center
USAEHA	US Army Environmental Hygiene Agency
USAG-HI	US Army Garrison-Hawaii
USATHAMA	US Army Toxic and Hazardous Materials Agency
USCOE-HED	US Corps of Engineers-Honolulu
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VOA	Volatile Organic Analysis
VOC	Volatile Organic Compounds
WAAF	Wheeler Army Airfield

Installation Information

Installation Locale: Schofield Barracks covers 17,725 acres in the north-central plateau of the island of Oahu, Hawaii. The facility is divided into two areas; the East Range and the Main Post. The facility lies approximately 22 miles northwest of the city of Honolulu. The area around the barracks is mostly agricultural land. The nearest municipality is Wahiawa, bordering the East Range to the north, supporting residential, commercial and light industrial uses. The town of Mililani lies approximately 2.5 miles southeast of Schofield Barracks and is mostly residential and commercial use. Wheeler Army Airfield lies between the Main Post and the East Range.

Installation Mission: Schofield Barracks mission is to train, equip, and to sustain the Army forces for the Pacific Theater.

Lead Organization: Installation Management Agency, Pacific Region

Lead Executing Agency: Schofield Barracks

Regulatory Participation:
Federal: US Environmental Protection Agency, Region IX
State: Hawaii Department of Health

National Priorities List (NPL) Status: NPL Installation, September 1990, Removed from NPL August 2000

Installation Restoration Advisory Board (RAB)/Technical Review Committee (TRC)/Technical Assistance for Public Participation (TAPP) Status: No RAB/TRC/TAPP has been established at this time.
Federal Facility Agreement, September 1991
Technical Review Committee, 1993-1996

Installation Program Summaries
IRP
Primary Contaminants of Concern: Solvents (Trichloroethylene, Carbon Tetrachloride)
Affected Media of Concern: Groundwater, Soil, Surface Water
Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 2001 with Indefinite LUCs

Funding to date (up to FY05): $ 38,103,420
Current year funding (FY06): $ 369,070
Cost-to-Complete (FY07+): $12,145,000

MMRP

Primary Contaminants of Concern: OE, Lead, Arsenic
Affected Media of Concern: Groundwater, Soil
Estimated Date for RIP/RC: 2017
Funding to date (up to FY05): $ 0
Current year funding (FY06): $ 257,000
Cost-to-Complete (2007+): $158,418,000

Installation Historic Activity

Schofield Army Barracks (SB) is an active US Army Garrison, Hawaii (USAG-HI) sub-installation and is the largest Army post in Hawaii.

SB was established in 1908 to provide a base for the Army's mobile defense of Pearl Harbor and the entire island. Initial construction of the post occurred between 1909 and 1917, during which time more than 250 buildings were erected. During the 1920s, expansion of SB continued as the infantry, cavalry, and artillery regiments were joined by regional battalion, ordnance company, an ammunition team, a tank company, a medical regiment, a maintenance squadron, and chemical gas regiment units. These types of units continue to operate at SB. The area occupied by Wheeler Field was originally acquired by the Secretary of War in 1899 for the Schofield Barracks Military Reservation. Construction at WAAF began in February 1922 as an extension of Schofield Barracks. Wheeler Field was a small operation, housing two squadrons of the Hawaiian Department of Air Corps. Wheeler Army Air Field was constructed in the 1920's and housed divisions of the Army Air Corps.

In 1939 Wheeler Field became a permanent military post. In April 1948, the Wheeler Field installation was renamed Wheeler Air Force Base (AFB). In 1949, it was deactivated and placed in caretaker status. Wheeler AFB was reactivated in 1952 during the Korean War, which resulted in the organization of the 1508th Support Squadron. In the 1960s, the Air Force, Army, Navy, and Hawaii National Guard shared installation facilities.

The US Army assumed control of the administration, maintenance, and operations at WAFB in 1977. It became the center for all Army aviation activities in the Pacific (primarily helicopters).

The installation came under formal control of the US Army in 1991 and was named Wheeler Army Airfield.

In 1941, following the attack at Pearl Harbor by the Japanese, Schofield Barracks became a supply base and command center for the war in the Pacific. Facilities were expanded when training camps were established because of increased wartime operations. During the war, SB is reported to have housed as many as 100,000 soldiers at one time.

After World War II, the population of SB declined sharply, however, a resurgence was experienced in 1951 when the Hawaiian Infantry Center was established as a basic training center for troops bound for the Korean War. Another resurgence in the population at the site occurred when the 25th Infantry Division returned to headquarters at SB in 1954.

Cleanup Program Summary

As headquarters for the 25th Infantry Division and 45th Support Group, SB currently houses approximately 25,000 individuals. Its mission is to provide administration, training, and housing facilities for these two units, as well as depot and repair facilities, a medical facility, and community and housing support. General operations performed at SB include administration, training and small-scale industrial operations. No major industrial operations are performed at the site. Small-scale industrial operations include:

- Vehicle repair, maintenance, rust proofing and painting
- Weapons refinishing
- Optical instrumentation maintenance
- Laundering
- Photography
- Electrical equipment service
- Training aids manufacturing
- Building maintenance and repair
- Medical laboratory operations
- Sewage treatment
- Municipal activities

Training activities at SB consist of both non-firing and firing activities. Non-firing activities are conducted primarily in the East Range area and consist predominantly of field tactical training, tactical problem-solving, and routine bivouac. Firing activities, which involve use of live ammunition, are conducted primarily in the central portion of the Main Post Area.

In April 1985, the Army notified the Hawaii Department of Health that high levels (30 parts per billion) of trichloroethylene (TCE) had been detected in wells supplying drinking water to 25,000 people at Schofield Army Barracks. An additional 55,000 people in Wahiawa and Mililani obtain drinking water from public wells within 3 miles of hazardous substances on the base. Within 3 miles downstream of the sub-installation, Wahiawa Reservoir is used to irrigate 3,000 acres of pineapple fields and is also used for recreational activities.

An Army investigation in May 1985 confirmed TCE contamination of the drinking water wells. In September 1986, the Army installed an air stripping facility to remove TCE from the contaminated Schofield Barracks wells, making the water safe to drink.

Schofield Army Barracks was proposed for the National Priorities List in July 1989 and was placed on the final list in September 1990 as a result of contamination of the sole source drinking water aquifer. The Army and the US EPA Region IX signed a Federal Facilities Agreement (FFA) in September 1991. State of Hawaii signed the FFA in June 1996. The Defense/State Memorandum of Agreement (DSMOA) and Cooperative Agreement have also been signed and oversight personnel hired by the State.

Wheeler Field was the site of several historic aviation events such as the first nonstop Mainland to Hawaii flight (1927) and the first Hawaii to Mainland flight. Construction at the base resumed in the early 1930s. Officers' quarters, barracks, hangars, headquarters, runways, a fire station and other technical buildings were constructed at this time (Tomanaii-Tuggle and Bouthiller, 1993; Hirota 1983).

In 1939 Wheeler Field became a permanent military post. Units stationed at Wheeler included the 18th Pursuit Group and the 4th and 5th Reconnaissance Squadrons. Wheeler Field was bombed during the attack on Pearl Harbor. Anecdotal information suggests that eighty-three aircraft were destroyed and subsequently buried at the end of the runway or bulldozed into a nearby gulch. Two additional runways were constructed after the attack. They formed a triangle so that all three runways could be used simultaneously. Ammunition storage structures, bunkers, a new hangar, family housing and support structures were also constructed during World War II. In 1944, the 7th Air Service Command was established at the base to provide service and supply for B-29 bombers (Tomanaii-Tuggle and Bouthiller, 1993; Hirota 1983; 15th Air Base Wing, 1990).

Documents indicate that aircraft maintenance was limited to flight line maintenance and minor frame and engine work (Dames and Moore, 1986). There were no heavy maintenance shops such as engine rebuilding or metal plating at the air base. Therefore, shop generated wastes were not extensive.

Present organizations at the facility include the Defense Communications Agency, Air Forces' 6010th Aerospace Defense Group, Hawaii National Guard Aviation Support, and the 25th Infantry Division Aviation Brigade (Tomanaii-Tuggle and Bouthiller, 1993; Hirota, 1983).

During the course of the investigation, 6 public meetings, and 10 technical review committee meetings were held both on Schofield and in Wahiawa in September 1996. There was no public interest shown for formation of a RAB at either of those meetings.

EPA placed the sub-installation in the "Construction Completion" category in September 1998, subsequent to the completion of repairs made on the landfill cap. The Army submitted the Final Closeout Report to EPA in December 1998. Schofield Barracks was removed from the EPA's NPL in August 2000.

IRP Prior Year Progress

There are two active sites under the IRP program at Schofield Army Barracks, Hawaii. These include Operable Unit 2 (SCHBR-19) which is the groundwater TCE contamination in the vicinity of Schofield Barracks, and the Schofield Barracks landfill (OU-4 – SCHBR-12) which has a TCE and carbon tetrachloride plume.

IRP Future Plan of Action

Both of these projects have been included in a PBC contract. They are in charge of several main tasks that are on-going for this effort: 1) continue the long-term monitoring of the OU-2 for the TCE plume, 2) continue long-term monitoring for the OU-4 (landfill) TCE plume, 3) Continue landfill gas monitoring, 4) Maintain the landfill clay cover, and 5) Perform the 5 year reviews as required under CERCLA for submission to EPA and the State of Hawaii Department of Health.

MMRP Prior Year Progress

There are ten MMRP sites that have been identified. It is not known at this time if off-post contamination exists at any of the identified sites; however the depth to groundwater at Schofield Barracks of 600+ feet makes the scenario very unlikely.

MMRP Future Plan of Action

Complete the SI.

SCHOFIELD BARRACKS

Installation Restoration Program

Total AEDB-R IRP Sites / AEDB-R sites with Response Complete: 125/123

Different Site Types:

36 Spill Sites	10 Disposal Pit/Dry Well	29 Storage Areas
1 Above Ground Storage Tank	5 Underground Tank Farms	2 Burn Areas
3 Underground Storage Tank	2 Landfill Sites	9 Other
3 Waste Treatment Plant	4 Surface Disposal Areas	3 UXO
1 Contaminated Groundwater	17 Maintenance Yard	

Most Widespread Contaminants of Concern: Trichloroethylene, Carbon Tetrachloride and Petroleum, Oil and Lubricants (POL)

Media of Concern: Groundwater, Soil, Surface Water

Completed Removal (REM)/Interim Remedial Action (IRA)/Remedial Action (RA):
Removal Action – UST/Soils Removals, 1993
Remedial Action – Del Monte Water Supply Treatment System, 1997
Remedial Action – Cap Repair/Maintenance for OU 4 (Landfill) 1999

Total IRP Funding

Prior years (up to FY05):	$37,703,410
Current year funding (FY06):	$ 369,070
Future Requirements (FY07+):	$12,145,000
Total:	$50,217,480

Duration of IRP
Year of IRP Inception: 1991
Year of IRP RIP/RC: 1998
Year of IRP Completion including Long-Term Management (LTM): 2029 with Indefinite LUCs

Installation Assessment Overview: Initial investigations at SB were conducted in 1983 and 1984 as part of the Army's initial installation assessment program ("Installation Assessment of US Army Support Command, Hawaii", US Army Toxic and Hazardous Materials Agency, May 1984). No significant sources of contamination were identified and no further action was recommended.

The recent history of environmental investigations at SB began with the reporting of TCE in the SB supply wells in April 1985. The Army informed the Hawaii Department of Health that up to 30 parts per billion (ppb) of TCE had been detected in the water supply wells that provide drinking water to over 25,000 people on post. Potential contamination of the local aquifer was of concern because an additional 55,000 persons in Wahiawa and Mililani obtain drinking water within 3 miles of the base. In response to the detection of TCE in its water wells, the Army installed an air stripper treatment system in 1986 to remove TCE from the drinking water.

Following discovery of TCE in the water supply, the US Army Environmental Hygiene Agency (AEHA) conducted an "Investigation of Drinking Water Contamination by Trichloroethylene, Schofield Barracks" in 1985. The report identified several potential generators and sources of TCE in and around SB including areas in the East Range and the former landfill (OU 4).

Based on the presence of TCE in a sole source drinking water aquifer above the Safe Drinking Water Act Maximum Contaminant Level of 5 parts per billion (ppb), Schofield Barracks was proposed for the National Priorities List (NPL) in July 1989 and placed on the NPL in September 1990 with a Hazard Ranking Score of 28.9. A Federal Facility Agreement was subsequently negotiated among the Army, EPA Region IX, and the Hawaii Department of Health for the conduct of a comprehensive environmental investigation of Schofield Barracks.

In August 1990, the US Army Toxic and Hazardous Materials Agency (USATHAMA) conducted an assessment of all hazardous waste sites on Schofield Barracks. The "USATHAMA Property Report - Schofield Army Barracks", prepared by Roy F. Weston, Inc., (Weston, 1990) identified and scored all hazardous waste sites on Schofield Barracks. This report formed the basis for the sites specified in the FFA for investigation and the current list of 126 sites under the AEDB-R database.

Under the Installation Restoration Program, a Preliminary Assessment/Site Investigation (PA/SI) was conducted by USATHAMA in FY92 (Harding Lawson Associates, 1992) to aid in scoping the RI/FS efforts for OU 1, OU 2, and OU 4. Under the PA/SI, sampling at OU 1 sites was limited to borings at the Former Laundry (SCHBR-19) and was recommended for no further action based on site inspection and records review. All other sites were recommended for further investigation for TCE contamination under the RI program initiated in January 1993.

Other related environmental studies include two investigations of the former landfill. A study was conducted under contract to Kennedy Engineers in 1980 to examine various options for solid and hazardous waste disposal at Schofield Barracks because the site's landfill permit was due to expire on 31 December 1981. The key report comprising this study was the Solid and Hazardous Waste Disposal Plan; it has two companion documents: the Interim Disposal Alternatives report and the Closure of Existing Landfill report. Details of this study are provided under specific discussion of the landfill (OU 4, AEDB-R Site 12).

OU 1 RI investigations conducted from March through September 1993 concluded that none of the 11 sites are sources of TCE contamination and that none of the sites require further investigation. As a result, a No Further Action Record of Decision (ROD) was signed by the Army and EPA in November 1995 and February 1996 respectively.

OU 4 RI investigations conducted from February 1993 through March 1994 concluded that the landfill is a continuing source of TCE and carbon tetrachloride in the groundwater. However, groundwater flow direction eliminates the landfill as the TCE source affecting the Schofield Supply Wells.

OU 2 Phase I RI investigations (February 1993 through May 1994) focused on collecting groundwater data from municipal and irrigation wells surrounding Schofield Barracks to determine the extent of impacted wells. OU 2 investigations also evaluated wellhead treatment as the remedy. Phase II OU 2 RI and OU 4 Feasibility Study (FS) field efforts were initiated in October 1994 to support preparation of RI and FS reports, proposed plans and RODs.

With the completion of repairs to the landfill cap in July 1998 and the completion of the Preliminary Closeout Report, EPA determined that all construction activities related to CERCLA remedial actions at Schofield Barracks were completed according to the requirements of the Records of Decision for the four Operable Units. Consequently, EPA classified Schofield Barracks in the "Construction Completion" category on September 22, 1998. The Final Closeout Report was submitted to EPA on December 1, 1998. Schofield Barracks was formally removed from the EPA's National Priorities List in August 2000. A Five-Year review of the effectiveness of remedies under the OU-2 and OU-4 programs was completed in 2002. Continued monitoring of the groundwater under OU-2 and OU-4 and Landfill Gas (methane) under OU-4 has been continually conducted.

Cleanup Exit Strategy:

In 1998 when the Record of Decision was negotiated with EPA and the State of Hawaii Department of Health, it was evaluated that a groundwater remediation alternative such as pump and treat would not be technically practical. Therefore, a technical impractibility waiver was obtained from EPA and the State of Hawaii Department of Health. The high permeability of the aquifer below Schofield would have required that an amount of groundwater be pumped and treated, since the source of the TCE was never found. The depth of groundwater at Schofield Barracks is on the order of 600 feet, and the cost of drilling is very high which also contributed to the technical impractibility waiver granted by EPA.

A clay cap was selected for the landfill as the remedial option. This will prevent additional infiltration of groundwater to the aquifers below. A well-head treatment option was selected. Under this scenario, any wells downgradient of Schofield Barracks that contain TCE attributable to the Army will be eligible for an Army financed air-stripping tower.

All of these requirements are included in the performance based contractor's scope. A 10 year contract exists through 2015.

The installation restoration program was developed around four operable units (OUs). Operable Unit One consists of suspected sources of trichloroethylene (TCE) contamination and is considered response complete. Operable Unit Two is the contaminated groundwater system underlying the sub-installation. Operable Unit Three consists of other hazardous waste sites identified on the sub-installation and is considered complete. Operable Unit Four consists of the former Schofield Barracks Landfill (AEDB-R - SCHBR-12). The program was conducted in three phases to address the most critical problem first (TCE contamination) and follow-up on less critical hazardous waste sites on the sub-installation.

SCHOFIELD BARRACKS

Installation Restoration Program
Site Descriptions

SCHBR-12

OPERABLE UNIT 4 LANDFILL (Page 1 of 2)

SITE DESCRIPTION

Operable Unit 4 consists of the former Schofield Barracks Sanitary Landfill (SCHBR-12). The SB landfill was operated from 1967 to 1981 and is located in an area used as a burn site from 1942 until 1967. Quantities and type of waste that were burned are unknown; however, interviews with former site personnel suggest that excess gun powder, paper and building debris may have been burned there. The landfill received waste from various military sub-installations on Oahu, including domestic, construction, medical, and hazardous wastes such as acids, bases, digested sewer sludge, medicines, inorganic compounds, spent pesticide and fluoride containers, and unusable paints.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN:
TCE, Carbon Tetrachloride

MEDIA OF CONCERN:
Soil, Groundwater, Surface Water

PHASES	Start	End
PA	198401	199302
SI	199106	199302
RI/FS	199302	199512
RD	199604	199608
RA(C)	199611	199807
LTM	199809	202809

RC DATE: 199809

Landfill operational inadequacies resulted in refuse being dumped over the edge of the landfill, underground fires, leachate production, methane gas production, slope instability, odors, ponding water, and vectors. Analysis of samples collected before landfill closure indicated high turbidity and pesticides or herbicides.

The EPA Field Inspection Team (FIT) 1981 Report concluded that previous hazardous waste disposal at the site was a distinct possibility and that the most immediate environmental threat was from landfill instability and erosion. Climate and geologic conditions allow for the generation and movement of leachate.

The landfill is currently non-operational, having been closed in 1981 and capped with a clay cover in 1982. Two samples of the clay cover were collected in 1983 and tested for permeability; permeability coefficients of 6.0×10^{-7} centimeters per second (cm/sec) and 7.0×10^{-7} cm/sec were obtained.

The FY92 PA/SI included a soil gas survey of the landfill which indicated volatiles contamination including TCE and dichloroethylene (DCE). RI Phase I was conducted between March 1993 and January 1994, including soil gas surveys, lysimeter installation and sampling, deep soil sampling and installation of monitoring wells. Results of the RI Phase I indicated that the landfill is a continuing source of contamination to the groundwater, but is not the source of the TCE contamination found at the Schofield Barracks supply wells. Further investigations of the landfill, conducted under the FS phase to expedite the project, were limited to collecting data required to

OPERABLE UNIT 4 LANDFILL

design a more effective cap to reduce the impacts and to determine whether hot spot removal was feasible. The OU 4 FS Report, which was finalized in December 1995, recommended re-grading the cap to its original design, the installation of gas monitoring wells around the landfill perimeter to comply with RCRA requirements, the installation of a passive landfill gas venting system, and cap re-vegetation. Long-term maintenance of the cover was also recommended in the FS report. A proposed plan was released for public review in April 1996. The ROD was completed and signed by the Army, the State of Hawaii, and EPA Region IX in September 1996, November 1996, and November 1996, respectively.

The repair/maintenance action at the landfill was completed in August 1998. The landfill cap was cleared of Guinea grass and re-graded. Other improvements included a drainage system and installation of gas wells. Maintenance actions to repair cracks were completed in March 2001. Cracks continue to appear on the landfill and apparent signs of settling are visible.

A waiver for technical impracticability (TI) was granted in 1997, for OU2 and OU4 and was approved by the regulatory agencies in 1997. The facility was removed from the NPL in 2000.

A ten year Performance Based Contract (PBC) was awarded in January 2005.

CLEANUP STRATEGY

Long-term groundwater monitoring is being done in accordance with the OU 4 O&M Plan. Inspections of the cap and drainage system are conducted quarterly as well as monitoring of methane gas generation at the landfill. Herbicide treatment of guinea grass and cutting of grass are on-going as part of the long-term maintenance plan. Repairs of the landfill cap are also part of the long-term maintenance plan.

All of these efforts are included in the performance based contractor's scope. This is a 10 year contract through 2015. The impacted groundwater is part of a sole source aquifer that is utilized by various users, such as, the City and County of Honolulu, agriculture concerns, the Department of Defense, and various other parties. Unless the TCE concentrations start of dissipate, it will be unlikely that significant progress will be made on a cleanup and exit strategy and additional well head treatment and land use controls will be required.

SCHBR-19
OPERABLE UNIT 2
GROUNDWATER CONTAMINATION (Page 1 of 3)

SITE DESCRIPTION

Operable Unit 2, while not specifically addressing hazardous waste sites, addresses the impacts of Schofield Barracks operations on the groundwater. The discovery of TCE in the water supply wells at SB was the primary factor used to place SB on the NPL. Schofield Barracks overlies the Schofield High Level Water Body which, combined with the Honolulu-Pearl Harbor Basal Water Body into which 80 percent of the Schofield Aquifer flows, is the main fresh water source for the island of Oahu. Operable Unit 2 consists of the groundwater beneath Schofield Barracks, as represented by the following AEDB-R site: SCHBR-19 Well Shaft #4 Groundwater Treatment System (GAC) (FFA 53).

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN:
TCE, CCl_4

MEDIA OF CONCERN:
Groundwater

PHASES	Start	End
PA	198306	199205
SI	199108	199205
RI/FS	199111	199608
LTM	199702	202912

RC DATE: 199702

Investigation of groundwater contamination of SB was initiated in 1985 when levels of TCE above the Safe Drinking Water Act (SDWA) Maximum Contaminant Level (MCL) of 5 ppb were first detected. Initial investigations were limited to the SB Water Supply wells and resulted in the installation of an air stripping treatment system at the supply wells. The air stripper began operation in September 1986 and treats approximately six million gallons of water per day. Based upon an average TCE concentration in the groundwater, approximately 33 gallons of pure TCE is removed from the groundwater each year with the air stripper. Observations of well concentration data have determined that well #4 has the highest levels of TCE (30 to 40 ppb) and the concentrations in the 3 remaining wells tend to rise when well #4 is shut down. Based upon the location of well #4 the TCE plume has been projected to lie to the east and south of the SB Water Supply wells.

Under the IR program a PA/SI was completed in FY92 which included a well survey for the area surrounding SB. The survey identified 39 wells within a 6-mile radius of the SB wells. Of these, 10 were randomly selected for sampling for volatile organics. One well west of Wheeler Army Airfield showed levels of TCE of 5.3 ppb; all others were below detection. Of the 39 wells only 14 are within the Schofield High Level Water Body; four of the wells are owned by DOD, six are irrigation wells for Dole and Del Monte and four are municipal wells (Wahiawa water supply wells). The PA/SI sampling results indicate that TCE is in the Schofield supply wells, wells at Kunia on the west side of Wheeler Army Air Field, and a number of monitoring wells in the Schofield vicinity.

SCHBR-19
OPERABLE UNIT 2
GROUNDWATER CONTAMINATION (Page 2 of 3)

Work plans for Phase II RI field investigations were completed and approved in September 1994, and fieldwork was conducted from October 1994 to August 1995. The Phase II RI investigations focused on collecting data to support the implementation of a point-of-use treatment approach for the final groundwater remedy. Under this approach the Army will monitor surrounding wells and treat groundwater only where it is pumped and used. No active pump and treat system will be installed based on technical and economic impracticability. The final Phase II RI report was submitted to the regulatory agencies in April 1996. The FS, which evaluates a full range of wellhead treatment alternatives, was completed in May 1996. A proposed plan to continue treatment at the Schofield Barracks Water Plant monitor wells in the area for any migration of the TCE plume, and to install wellhead treatment at any municipal well that are impacted, was distributed to the public in May 1996. The Record of Decision was signed by the Army, the Hawaii Department of Health, and the EPA in September 1996, November 1996, and February 1997, respectively.

The low levels of TCE at the Kunia well rose above the 5 ug/L level in May 1997 and again in May 2000 prompting the Army to take action. Del Monte Fresh Produce Hawaii, Incorporated had previously installed an air stripping tower on the drinking water system in 1990. In accordance with the OU 2 ROD, the Army reimbursed the capital cost of the treatment facility to Del Monte and is currently funding the operation and maintenance of that treatment facility to safeguard the health of people living and working at Kunia. As a part of this operation and maintenance of the water treatment facility, the Army funded the replacement of the deteriorated blower assembly.

A waiver for technical impracticability (TI) was granted in 1997, for OU2 and OU4 and was approved by the regulatory agencies in 1997. The facility was removed from the NPL in 2000.

The operation of the air-stripping towers has been on-going, with continued monitoring of the extent of the plume. The plume has largely remained stationary, with an approximately 6 million gallons per day withdraw of water from the Schofield High Level Water body to provide water for the military personnel at Schofield. The approximate annual total of pure TCE withdrawn from the system is approximately 33 gallons per year, or less than one drum of TCE. Concentrations of TCE and Carbon-Tetrachloride have generally remained the same in impacted wells from 1993 through the present. A ten year Performance Based Contract (PBC) was awarded in January 2005.

SCHBR-19
OPERABLE UNIT 2
GROUNDWATER CONTAMINATION (Page 3 of 3)

CLEANUP STRATEGY

The efforts under OU-2 are included in the performance based contractor's (Versar, Inc.) scope. This is a 10 year contract through 2015. Versar will attempt to reduce the amount of long term monitoring by reducing the sampling frequency and number of constituents under OU-2 and OU-4 upon approval from the EPA, State of Hawaii Department of Health, and the Army. The impacted groundwater is part of a sole source aquifer for the City and County of Honolulu.

OPERABLE UNIT 1
TCE SOURCES

SITE DESCRIPTION

The sites included in OU 1 all have been identified with use and/or storage of TCE or other solvents through the 1990 study conducted by USATHAMA to identify hazardous waste operations at Army properties (Weston, 1990). The RI/FS Work Plan for Schofield Barracks was completed in June 1992 and approved by the EPA in January 1993 and field work was conducted from March through September 1993. The RI investigation concluded that none of the OU 1 sites are sources of the TCE groundwater contamination. Preliminary assessment and site investigation of potential TCE sources on Wheeler AAF conducted from October 1993 through July 1994 also identified no sources of TCE. A No Further Action Record of Decision was signed by the Army, and EPA in November 1995 and January 1996, respectively. The AEDB-R sites included in OU 1 are:

SCHBR-01	Firing Range Burning Areas (RRSE - NFRAP)
SCHBR-07	Area R. Waste Storage Area (POL Area) (RRSE - NFRAP)
SCHBR-16	East Range Disposal Site (RRSE - NFRAP)
SCHBR-17	Former Laundry (Old Laundry) (RRSE - NFRAP)
SCHBR-30	Maintenance Area (Bldg T-1029 Area) (RRSE - NFRAP)
SCHBR-31	Distribution Warehouse (T-1052) (RRSE - NFRAP)
SCHBR-37	Autocraft Shop (Bldg 910) (RRSE - NFRAP)
SCHBR-51	Maintenance Area (RRSE - NFRAP)
SCHBR-56	Aircraft Fuselage Area (RRSE - NFRAP)
SCHBR-87	Aircraft Storage Bunkers (RRSE - NFRAP)
SCHBR-88	Engine Rebuild Area (RRSE - NFRAP)

CLEANUP STRATEGY

Response Complete for all these OU-1 sites.

OPERABLE UNIT 3
MISCELLANEOUS SITES (Page 1 of 2)

SITE DESCRIPTION

Under the Federal Facility Agreement the EPA required the Army to investigate all potential generators and accumulators of hazardous waste within the boundaries of Schofield Barracks. Operating procedures in place at SB require waste generators to limit waste accumulation to less than 90 days and provide for disposal through the Defense Reutilization and Marketing Office. Under these procedures, SB is not required to obtain RCRA permits for its operations. Therefore, the normal procedure of conducting RCRA Facility Assessments/Investigations (RFA/RFI) and required RCRA Corrective Measures Study/Actions is not applicable to sub-installation activities. Under RCRA/CERCLA integration requirements of the National Contingency Plan (NCP), investigation of these sites was required under the FFA but given a low priority in the program strategy.

Prior to establishment of Operable Unit 3, only the 1990 USATHAMA Hazardous Waste Site Property Report (Weston, 1990) had investigated the OU 3 sites. This study provided a preliminary assessment of each of the sites based on quantities of chemicals used and/or stored, current site conditions and proximity to receptors. Preliminary assessment scoring was conducted for each of the sites based on these parameters. This report formed the basis for the hazardous waste site list incorporated into the SB FFA. Subsequently, the USEPA requested the inclusion of 37 additional sites into OU 3 based on an Environmental Photographic Interpretation Center (EPIC) aerial photography survey of Schofield Barracks. The Defense Site Environmental Restoration Tracking System (DSERTS) database was revised to include all sites investigated under OU 3. Sites included in OU 3 range from landfills and firing ranges to motor pools and maintenance areas to pesticide storage buildings and photographic operations.

The Preliminary Assessment of the OU 3 sites listed in Table 2 was completed in two parts. The first 66 sites were investigated from May through August 1992, culminating in a work plan outlining the Army's proposal to limit further investigation of these sites and move forward with remedial actions through an "investigation-by-excavation" (IBE). Upon review of the draft PA Report, the EPA identified 37 additional sites to be investigated. Also included within the OU 3 are seven UST sites not included in the FFA. The OU 3 PA was completed in January 1994 following preliminary assessment of the new sites conducted from July through September 1993. Based on the PA and after further consultation between the Army and EPA, an RI was performed on the 34 sites requiring further investigation. The RI identified organic compounds and metals that were present above background concentrations in soil and/or surface water at a number of the OU 3 sites. The most commonly identified chemicals were POLs and metals.

Other constituents detected at the OU 3 sites include volatiles, semi-volatiles, pesticides, and PCBs.

OPERABLE UNIT 3
MISCELLANEOUS SITES (Page 2 of 2)

Although constituents were identified above background levels, the risk assessment concluded that there was no significant current or potential threat to human health or the environment. The risk estimates for the chemicals detected at the OU 3 sites were within the 10^{-4} to 10^{-6} risk range, were less than 10^{-6}, or an exposure route to the chemical did not exist. As a result of the findings in the RI report, finalized in February 1996, a no action proposed plan was released for public review in April 1996. A no action ROD was signed by the Army, Hawaii DOH, and the EPA in September (by both DOH and Army) and November 1996 (by EPA).

At four former UST sites, remedial actions were taken in FY00. The POL contaminants at three sites were excavated, removed and run through a thermal desorption unit off site. At one site next to Bldg 3010 (SCHBR-106), some contamination remains under the building. The follow-on RI determined the extent of contamination. The risk assessment determined that the remaining contaminants posed no risk to human health or the environment.

CLEANUP STRATEGY

No further remedial action is planned for these sites. All these sites under Operable Unit 3 are response complete.

IRP No Further Action Sites Summary

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
SCHBR-01	Firing Range Burning Area (FFA 50)	Final Record of Decision for OU1 Schofield Army Barracks, Island of Oahu, Hawaii September, 1995, HLA	199509
SCHBR-02	DFE Entomology-Bldg 368 (FFA 38)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-03	DFE Land Mgmt Branch Bldg 379 (FFA39)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-04	Behind Bldg 379 Washrack (FFA 39)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-05	DPCA Golf Course Bldg 6019 (FFA 37)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-06	Adjacent to Bldg 6019 Concert Apron (FFA 37)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-07	Area R Waste Storage Area (FFA 20)	Final Record of Decision for OU1 Schofield Army Barracks, Island of Oahu, Hawaii September, 1995, HLA	199509
SCHBR-09	Bldg T 2140 Spray Paint Booth (FFA 45)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-13	STP No Bypass Provisions (FFA 15)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-15	Central Ranges (FFA 15)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-16	East Range Disposal Site (FFA 51)	Final Record of Decision for OU1 Schofield Army Barracks, Island of Oahu, Hawaii September, 1995, HLA	199509
SCHBR-17	Former Laundry (FFA 52)	Final Record of Decision for OU1 Schofield Army Barracks, Island of Oahu, Hawaii September, 1995, HLA	199302
SCHBR-18	Acid Pit (FFA 46)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199302
SCHBR-20	Drum Storage Area (FFA 1)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
SCHBR-21	Vehicle Scrap Yard (FFA 2)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-26	TASC (Bldg 2061) (FFA 9)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-27	Bldg T-1125 Target Shop (FFA 10)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-28	Bldg T-2276 (FFA 12)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-29	Bldg 2275 Repair/Carpentry Shop (FFA 16)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-30	Maintenance Area(Bldg T-1029) (FFA 17)	Final Record of Decision for OU1 Schofield Army Barracks, Island of Oahu, Hawaii September, 1995, HLA	199302
SCHBR-31	Distribution WH (Bldg T-1052)(FFA 18)	Final Record of Decision for OU1 Schofield Army Barracks, Island of Oahu, Hawaii September, 1995, HLA	199509
SCHBR-32	Battery Shop (Bldg T-1081)(FFA 19)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-33	Pest Control Shop (Bldg 370/380) (FFA 21)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-34	Pest Control Shop (FFA 22)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-35	Arts and Crafts (Bldg 585) (FFA 23)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-36	Autocraft Car Wash (Bldg 910) (FFA 24)	Final Record of Decision for OU1 Schofield Army Barracks, Island of Oahu, Hawaii September, 1995, HLA	199302
SCHBR-37	Autocraft Shop (Bldg 910 (FFA 25)	Final Record of Decision for OU1 Schofield Army Barracks, Island of Oahu, Hawaii September, 1995, HLA	199403
SCHBR-38	Car Care (Bldg 79) (FFA 26)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-39	Veterinary Clinic (FFA 27)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
SCHBR-40	Health Clinic (FFA 28)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-41	Incinerator (Bldg 673) (FFA 29)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-42	Former Service Station/5 USTs (FFA 30)		199712
SCHBR-43	Dental Clinic (FFA 31)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-44	24-Hour Photo Service (FFA 32)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-45	Maintenance Areas (Bldg T-2054, 2060 (FFA 33)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-46	Weapons Maintenance (Bldg 2131) (FFA 34)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-47	Optical Repair (Bldg 1054) (FFA 35)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-48	Gas Chamber (Bldg 2253C) (FFA 36)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-49	Transformers (9) (FFA 40)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-50	Transformer Leak Area (FFA 41)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-51	Maintenance Area (Bldg 387) (FFA 42)	Final Record of Decision for OU1 Schofield Army Barracks, Island of Oahu, Hawaii September, 1995, HLA	199509
SCHBR-52	Ammo Storage Bunkers (FFA 43)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-53	Chem Impreg Plant (Bldg 2308) (FFA 44)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-54	Photo Operations (Bldg 2308) (FFA 47)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
SCHBR-55	Bldg 370B Industrial Operations (FFA 48)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-56	Aircraft Fuselage Area (FFA 54A)	Final Record of Decision for OU1 Schofield Army Barracks, Island of Oahu, Hawaii September, 1995, HLA	199509
SCHBR-57	Tunnels (3) (FFA 55)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-58	Landfill 3 Various Locations (FFA 49)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-60	Maintenance Area A (FFA 3)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-61	Maintenance Area B (FFA 3/11)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-62	Maintenance Area C (FFA 3/11)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-63	Maintenance Area D (FFA 3/11)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-64	Maintenance Area E (FFA 3/6)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199302
SCHBR-65	Maintenance Area F (FFA 3/11)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-66	Maintenance Area G (FFA 3/11)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-67	Maintenance Area H (FFA 3)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-68	Maintenance Area I (FFA 3/11)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-69	Maintenance Area J (FFA 3/6)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-70	Maintenance Area K (FFA 3/11)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-71	Maintenance Area L (FFA 3/11)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
SCHBR-72	Maintenance Area M (FFA 3/11)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-73	Maintenance Area N (FFA 3/11)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-74	Maintenance Area O (FFA 3/6/11)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-75	Maintenance Area P (FFA 3/11)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-76	Maintenance Area Q (FFA 3/11)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-77	Maintenance Area R (FFA 3/11)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-78	Maintenance Area S (FFA 3/11)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-79	Maintenance Area T (FFA 3/11)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-80	Maintenance Area U (FFA 3/11)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	200009
SCHBR-81	Maintenance Area V (FFA 3)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-82	Maintenance Area W (FFA 3/6)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-83	Maintenance Area X (FFA 3/11)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-84	McCarthy Flats Ranges (FFA 13)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-85	Kolekole Firing Ranges (FFA 14)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-86	Transformer Storage Area (FFA 40)	Final Preliminary Assessment Report and Sampling and Analysis Plan for OU3, Schofield Army Barracks, Island of Oahu, February 93, Hawaii	199302
SCHBR-87	Aircraft Storage Bunkers (FFA 54B)	Final Record of Decision for OU1 Schofield Army Barracks, Island of Oahu, Hawaii September, 1995, HLA	199509

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
SCHBR-88	Engine Rebuild Area (FFA 54C)	Final Record of Decision for OU1 Schofield Army Barracks, Island of Oahu, Hawaii September, 1995, HLA	199509
SCHBR-89	Pits (FFA 57)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-90	Possible Waste Disposal (1944) (FFA 58)	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199403
SCHBR-91	Two Trenches (1942) (FFA 59)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-92	Treatment Plant (1953) (FFA 60)		199403
SCHBR-93	Trench & Pit w/Liquid (1953-77) (FFA 61)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199701
SCHBR-94	Four Trenches (1962) (FFA 62)		199403
SCHBR-95	Three Pits w/Light Material (FFA 63)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-96	Pits (1962) (FFA 64A)	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199403
SCHBR-97	Stains/Open Storge Area (1942) (FFA 65)	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199403
SCHBR-98	Possible Refuse (1942) (FFA 68)	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199403
SCHBR-99	Treatment Plant (1953) (FFA 67)	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199403
SCHBR-100	Dark Stained Areas (1942) (FFA 68)	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199403
SCHBR-101	Open Storage Areas (1942-1953) (FFA 69)	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199403

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
SCHBR-102	Open Storage Area (1942-47 & 1968) (FFA 70)	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199403
SCHBR-103	Open Storage Area (1955) (FFA 71)	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199403
SCHBR-104	Open Storage Area (Bldg 368) (1942) (FFA 72A)	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199403
SCHBR-105	Motor Pool (1942) (FFA 73)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-106	Open Storage Area (1977) (FFA 74)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	200112
SCHBR-107	Probable Containers/OS (1950-51 (FFA 75)	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199403
SCHBR-108	Light Object/Open Burning (1942) (FFA 76)	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199403
SCHBR-109	Light & Med Tone Objects (1942) (FFA 77)	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199403
SCHBR-110	Open Storage Areas (1942) (FFA 78)	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199403
SCHBR-111	Light Tone Objects (1942) (FFA 79)	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199403
SCHBR-112	Possible Trench (FFA 82)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-113	Industrial Ops/Open Storage (1942) (FFA 81A)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-114	Trench (FFA 82)		199403
SCHBR-115	Open Storage/Motor Pool (FFA 83)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199510

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
SCHBR-116	Open Storage/Motor Pool (FFA 84)	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199403
SCHBR-117	Open Storage/Motor Pool (FFA 85)	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199403
SCHBR-118	Open Storage/Motor Pool (FFA 86)	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199403
SCHBR-119	Open Storage/Motor Pool (1950-59) (FFA 87)	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199403
SCHBR-120	Motor Pool (1955-78) (FFA 88)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-121	Open Storage/Possible Pits (1951-59) (FFA 89)	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199403
SCHBR-122	Motor Pool/Dark Stains (1959-70) (FFA 90)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-123	Refuse (1942) (FFA 91)	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199403
SCHBR-124	Open Storage (1950) (FFA 92)	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199403
SCHBR-125	Open Fire (1951) (FFA 92)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199403
SCHBR-126	Quad B USTs		200009
SCHBR-127	Quad E USTs	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199409
SCHBR-128	Quad F USTs	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199409

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
SCHBR-129	Bldg 665 USTs	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199409
SCHBR-130	Health Clinic USTs	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199409
SCHBR-131	Quad I USTs	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199409
SCHBR-132	Quad J USTs	Field Screening Sampling and Analysis Plan, OU3, Schofield Army Barracks, Island of Oahu, Hawaii, March 1994, IMS Engineers-Architects, P.C.	199409
SHCBR-133	Two Pits (1962) (FFA 64B)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	199610
SCHBR-134	Maintenance Area, Bldg 368 (FFA 72B)	Final Record of Decision, OU3, Schofield Barracks, Island of Oahu, Hawaii, August 1996, U&A	200009

IRP Schedule

Initiation of IRP: 1991

Past Phase Completion Milestones

The Schofield Barracks IR program was initiated in July 1991 with the award of a task to scope the RI/FS effort for the site. Under this task, Preliminary Assessment/Site Investigation of Schofield Barracks, work plans were developed to guide the conduct of the RI and FS phases of the program.

IRP Phase	*Completion Date*
Initial Installation Assessment	May 84
Removal Action - Water Supply Treatment System	Sep 86
NPL Listing	Sep 90
IRP Initiation	Jul 91
PA/SI (OU 1, OU 2, & OU 4)	May 92
PA/SI (OU 3)	Aug 93
Construction Completion	Sep 98
OU 1	
RI	Jun 94
PA/SI of Wheeler (TCE Source Search)	Dec 94
Proposed Plan (NFRAP)	Jun 94
ROD (NFRAP)	Sep 94 (signed)
OU 2	
RI Phase I	Aug 94
RI Phase II	Aug 95
FS	May 96
Proposed Plan	July 96
ROD	Feb 97 (signed)
OU 3	
RI	Mar 96
Proposed Plan	Apr 96
ROD	Nov 96 (signed)
OU 4	
RI Phase I	Aug 94
RI Phase II	Aug 95
FS	Mar 96
ROD	Nov 96 (signed)
Maintenance Action	Aug 98

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates:

ROD signed in 1996

IRP Schedule

Projected Construction Completion Date of IRP: 2001

Schedule for Next Five-Year Review: 200703

Estimated Completion Date of IRP (including LTM phase): 2029 with Indefinite LUCs

Prior Years Funds

Total Funding up to FY04: $ 37,326K

FY05

Site Information	Expenditures	FY Total
LTM, SCHBR-12	$202,610	
LTM, SCHBR-19	$ 74,810	**$377,420**

Total Prior Year Funds: **$ 37,703.4K**

Current Year (FY06) Requirements

Site Information	Requirements	FY Total
LTM, SCHBR-12	$194,150	
LTM, SCHBR-19	$174,920	**$369,070**

Total Future Requirements: **$12,145K**

Total IR Program Cost *(from inception to completion of the IRP):* **$50,217.5K**

SCHOFIELD BARRACKS

Military Munitions Response Program

MMRP Summary

Total AEDB-R MMRP Sites/AEDB-R sites with Response Complete: 10/0

AEDB-R Site Types

4 Small Arms Ranges 6 Multi-Use Ranges

Most Widespread Contaminants of Concern: Arsenic, Lead, OE, UXO

Media of Concern: Soil, Surface Water

Completed REM/IRA/RA: None

Total MMRP Funding

Prior years (up to FY05):	$ 0
Current Year (FY06):	$ 257,000
Future Requirements (FY07+):	$158,418,000
Total:	$158,675,000

Duration of MMRP

Year of MMRP Inception: 2002
Year of MMRP RIP/RC: 2017
Year of MMRP Completion Including LTM: 2047

MMRP Contamination Assessment

MMRP Contamination Assessment Overview

Ten MMRP sites have been identified. It is not known at this time if off-post contamination exists at any of the identified sites; however the depth to groundwater at Schofield Barracks of 600+ feet makes the scenario very unlikely.

Site Progress

The SI for this site is planned for April 2006 through September 2007.

MMRP Cleanup Exit Strategy

Complete the SI and determine necessary remedial actions.

2002

- Final CTT Inventory Report, TechLaw, October

SCHOFIELD BARRACKS

Military Munitions Response Program Site Descriptions

SCHBR-001-R-01
A-100-1

SITE DESCRIPTION

This is a former multi-use range that was leased from the landowner by the Army, used and then returned. The Range was located south of the southwestern portion of Schofield Barracks, and west of Wheeler Army Airfield, between tracts A-101-L-1 and A-101-L-2. According to a 1951 map, live ammunition was used within Tract A-I00-1 on a range identified as Combat in Cities. Additionally, a letter referencing License Agreement DA-94-620-ENG-3 (dated May 4, 1951) for 71.8 acres on Tract A-100-1 indicated that the area had been continuously utilized as a training area and in 1975 was being used as an anti-armor training course, bivouac area, and unit assembly area during field problems and exercises. The 1951 map indicated that live ammunition was used on the Combat in the Cities range, and it was assumed that small arms were used in this area. Since no other information was found regarding this range, it was assumed that the small arms and pyrotechnics were expended. The license was terminated on December 18, 1991. Although the site is listed as transferred property, because the license for use expired after 1986, it does not meet the definition of a FUDS property. There have been no known UXO responses at this range. The area is undeveloped.

This land has been acquired by the Army as part of the South Range Acquisition area for establishment of a Stryker Brigade Combat Team motor pools and other office structures. This land has been purchased and is owned, not leased, by the Army.

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern.

The SI for this site is planned for April 2006 through September 2007.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 2 - Serious

CONTAMINANTS OF CONERN: Potential for Lead, OE

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA	200204	200305
SI	200601	200712

RC DATE: 200712

CLEANUP STRATEGY

The cleanup strategy for this site is described in the MMRP contamination assessment exit strategy for multi-use ranges. Since the land has been purchased by the Army, no exit strategy may be necessary.

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern but may be addressed during the RI if deemed necessary.

SCHBR-002-R-01
SMALL BORE RANGE

SITE DESCRIPTION

This small arms range was depicted on a 1939 Range Map and identified as a small bore range. Based on the size of the range and the name, it was assumed that small arms training occurred in this area. This range is located in the southern portion of the Schofield Barracks cantonment area. Since no other information was found regarding this range, the use dates were assumed to be from 1939 until the end of World War II in 1945. The range comprises approximately 2 acres. There have been no known response actions at this range. Presently, the area is undeveloped.

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern.

The SI for this site is planned for April 2006 through September 2007.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 5 - Negligible

CONTAMINANTS OF CONERN:
Lead

MEDIA OF CONCERN:
Soil

PHASES	Start	End
PA	200204	200305
SI	200601	200712
RI/FS	201010	201109
RD	201510	201609
RA(C)	201610	201709

RC DATE: 201709

CLEANUP STRATEGY

The cleanup strategy for this site is described in the MMRP contamination assessment exit strategy for small arms ranges.

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern but may be addressed during the RI if deemed necessary.

SCHBR-003-R-01
WAIAWA TRAINING AREA

SITE DESCRIPTION

This transferred former multi-use range is located on the southern end of and adjacent to the East Range of Schofield Barracks and the Center Combat Range and was used for maneuvers, training, and as an impact area. This range was depicted on two 1944 maps and described in various historical documents, including a clearance document dated November 1945. Based on this time frame, it was assumed that the range was used during the World War II era (1941-1945). According to the clearance document regarding the Waiawa Impact and Maneuver Area, the following items were found and had to be destroyed: 2.36" rockets, 37 mm HE shells, 59 mm mortar shells (Japanese), 60 mm mortar shells, 75 mm HE shells, 3" HE shells, 105mm HE shells, 4.2" mortar shells, 155 mm HE shells, 8" HE shells, 75 mm APC shells, 90 mm HE shells, and rifle grenades. This area was estimated to comprise 2,537 acres. There have been no known response actions at this range since 1945.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 2 - Serious

CONTAMINANTS OF CONERN:
Potential for Lead, OE

MEDIA OF CONCERN:
Soil

PHASES	Start	End
PA	200204	200305
SI	200810	200909
RI/FS	201110	201209
RD	201110	201209
RA(C)	201110	201509
LTM	201510	204409

RC DATE: 201509

This site has been recommended for FUDS, and will be listed as Response Complete once it is programmed under FUDS.

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern.

CLEANUP STRATEGY

The cleanup strategy for this site is described in the MMRP contamination assessment exit strategy for multi-use ranges.

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern but may be addressed during the RI if deemed necessary.

SCHBR-004-R-01
YONKERS RANGE

SITE DESCRIPTION

This closed small arms range was located on the northern end of the Schofield Barracks cantonment area, as depicted on a 1962 General Site Map, revised in 1964, 1966, and 1967. Based on the location of the range depicted on the map, it was assumed that this range was used for small arms. Since no other information was found regarding this range, the use dates were assumed to be during the 1960s. Additionally, since the maps did not outline the range boundaries and the topography in the area offered no limitations, the area for this range was based on the range safety fan established in the document titled "Army Range Inventory, Appendix E of Data Collector Instructions, September 2001" and was estimated at 79 acres. The firing direction was chosen to avoid as many of the buildings and roads depicted in the historical maps as possible. As a result, a portion of this range fan extends beyond the range boundary and is labeled Yonkers Range (TD). There have been no known UXO responses at this range. This site is currently a housing area.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 5 - Negligible

CONTAMINANTS OF CONERN:
Lead

MEDIA OF CONCERN:
Soil

PHASES	Start	End
PA	200204	200305
SI	200601	200712
RI/FS	201010	201109
RD	201510	201609
RA(C)	201610	201709

RC DATE: 201709

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern.

CLEANUP STRATEGY

The SI for this site is planned for April 2006 through September 2007.

The cleanup strategy for this site is described in the MMRP contamination assessment exit strategy for small arms ranges.

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern but may be addressed during the RI if deemed necessary.

SCHBR-005-R-01
YONKERS RANGE (TD)

SITE DESCRIPTION

This transferred small arms range is located outside the northern end of the Schofield Barracks cantonment area, as depicted on a 1962 General Site Map, revised in 1964, 1966, and 1967. Based on the location of the range depicted on the map, it was assumed that this range was used for small arms. Since no other information was found regarding this range, the use dates were assumed to be during the 1960s. Additionally, since the maps did not outline the range boundaries and the topography in the area offered no limitations, the area for this range was based on the range safety fan established in the document titled "Army Range Inventory, Appendix E of Data Collector Instructions, September 2001" and was estimated at 181 acres. The firing direction was chosen to avoid as many of the buildings and roads depicted in the historical maps as possible. As a result, this range was split into two areas: one area that was located within the installation boundary and another that extended outside the installation boundary. The site is undeveloped and currently being used for agricultural purposes. Some of this land is within the Galbraith Estate which is in the process of being dissolved. So the northern portion of this land may be transferred to another owner for agricultural purposes.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 5 - Negligible

CONTAMINANTS OF CONERN:
Lead

MEDIA OF CONCERN:
Soil

PHASES	Start	End
PA	200204	200305
SI	200601	200712
RI/FS	201010	201109
RD	201510	201609
RA(C)	201610	201709

RC DATE: 201709

There have been no known UXO responses at this range. Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern.

CLEANUP STRATEGY

The SI for this site is planned for April 2006 through September 2007.

The cleanup strategy for this site is described in the MMRP contamination assessment exit strategy for small arms ranges.

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern but may be addressed during the RI if deemed necessary.

SCHBR-006-R-01
D-400-L

SITE DESCRIPTION

This former multi-use range is located to the north-northwest of and adjacent to Schofield Barracks, this 3,612 acre tract of land was leased on November 2, 1978 from Kahua Ranch, Ltd. During the Army's tenure, the area was used as a maneuver area and for the live-firing of artillery and mortar rounds onto an impact area within the installation boundary. The use of small arms is also suspected. The lease was terminated on February 28, 1985. There have been no known UXO responses at this range. At present, this area is undeveloped and very steep.

This site has been recommended for FUDS, and will be listed as Response Complete once it is programmed under FUDS.

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 2 - Serious

CONTAMINANTS OF CONERN:
Potential for Lead, OE

MEDIA OF CONCERN:
Soil

PHASES	Start	End
PA	200204	200305
SI	200810	201109
RI/FS	201410	201509
RD	201610	201709
RA(C)	201710	201809
LTM	201810	204809

RC DATE: 201809

CLEANUP STRATEGY

The cleanup strategy for this site is described in the MMRP contamination assessment exit strategy for multi-use ranges.

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern but may be addressed during the RI if deemed necessary.

SCHBR-007-R-01
CENTER COMBAT RANGE

SITE DESCRIPTION

This former multi-use range has been transferred and was depicted on two 1944 maps. Based on this time frame, it was assumed that the range was used during the World War II era (1941-1945). This area is located on the south end of and adjacent to the East Range of Schofield Barracks. One of the maps indicates that "no live shells, tracer bullets, or other incendiary ammunition will be used in this area" in order to avoid forest fires. The map also indicates that firing lines are located within the area. As a result, it was assumed that this area was used for maneuvering with small arms and practice ordnance such as mortars, hand grenades, and mixed caliber artillery rounds. The range was estimated to Comprise 3,916 acres. There have been no known UXO responses at this range. At present, this area is undeveloped.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 3 - Moderate

CONTAMINANTS OF CONERN:
Potential for Lead, OE

MEDIA OF CONCERN:
Soil

PHASES	Start	End
PA	200204	200305
SI	200810	200909
RI/FS	201010	201109
RD	201010	201109
RA(C)	201010	201509
LTM	201510	204409

RC DATE: 201509

This site has been recommended for FUDS, and will be listed as Response Complete once it is programmed under FUDS.

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern.

CLEANUP STRATEGY

The cleanup strategy for this site is described in the MMRP contamination assessment exit strategy for multi-use ranges.

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern but may be addressed during the RI if deemed necessary.

SCHBR-008-R-01
ER-7A

SITE DESCRIPTION

This former multi-use range is located at the southwestern tip of the East Range, this range was identified on a 1974 map depicting East Range Training Areas. No other information was found regarding this range. Therefore, use dates were assumed to be approximately from the date of the map through the end of the decade. Additionally, based on the location of the range and use of surrounding ranges, it was assumed that light force maneuvering with possible use of pyrotechnic, blanks, or small arms occurred in this area. The range comprises approximately 63 acres and was used until 1980. There have been no known UXO responses at this range. Presently, the range area is part of the installation's Leilehua golf course, the H2 freeway, and leased agricultural plots.

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 1 - High

CONTAMINANTS OF CONERN:
Potential for Lead, OE

MEDIA OF CONCERN:
Soil

PHASES	Start	End
PA	200204	200305
SI	200601	200712
RI/FS	201010	201109
RD	201510	201609
RA(C)	201610	201709
LTM	201710	204709

RC DATE: 201709

CLEANUP STRATEGY

The cleanup strategy for this site is described in the MMRP contamination assessment exit strategy for multi-use ranges.

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern but may be addressed during the RI if deemed necessary.

SCHBR-009-R-01
A-101-L-1

SITE DESCRIPTION

This is a former multi-use range. According to a License Agreement, Tract A-101-L-1 was used for artillery firing points, conducting extended firing into the Schofield Barracks impact area, and overhead firing. This site was located south of the main post of Schofield Barracks, and west of Wheeler Army Airfield. It was assumed that medium caliber artillery and mortar rounds were fired into the impact area. Interviewees also indicated that blanks and pyrotechnics may have been used during maneuvers. The license for this 303 acre property began in 1962, and was terminated on February 8, 1965. There have been no known UXO responses at this range. The site is undeveloped.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 3 - Moderate

CONTAMINANTS OF CONERN:
Potential for Lead, OE

MEDIA OF CONCERN:
Soil

PHASES	Start	End
PA	200204	200305
SI	200601	200712

RC DATE: 200712

This land has been acquired by the Army as part of the South Range Acquisition area for establishment of the Stryker Brigade Combat Team motor pools and other office structures. This land has been purchased and is owned, not leased, by the Army. Therefore there is no need to transfer the site under FUDS or any other program.

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern.

CLEANUP STRATEGY

The SI for this site is planned for April 2006 through September 2007.

The cleanup strategy for this site is described in the MMRP contamination assessment exit strategy for multi-use ranges.

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern but may be addressed during the RI if deemed necessary.

SCHBR-010-R-01
A-100-L-2

SITE DESCRIPTION

This is a former small arms range. According to a use permit and license, Tract A-100-L-2 was used as a safety buffer zone subject to small arms fire training. Located south of the main post of Schofield Barracks, and west of Wheeler Army Airfield, the license for this 348 acre property was effective February 15, 1957 and was terminated on December 31, 1976. There have been no known UXO responses at this range. Presently, the area is undeveloped.

The northern half of this parcel has been acquired by the Army as part of the South Range Acquisition area for establishment of the Stryker Brigade Combat Team motor pools and other office structures. This land has been purchased and is owned, not leased, by the Army. Therefore there is no need to transfer the northern portion of site under FUDS or any other program. The southern portion of this property is not listed as being in the South Range Acquisition Area.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 5 - Negligible

CONTAMINANTS OF CONERN:
Lead

MEDIA OF CONCERN:
Soil

PHASES	Start	End
PA	200204	200305
SI	200601	200712

RC DATE: 200712

During the Findings of Determination for FUDS (FDE) Task 1 effort it was noted that the southern portion of this site could qualify for FUDS. However, the site was not recommended for FUDS because it was determined that the site may be re-acquired by the DoD for operational range activities. A final determination for the site should be made so that the southern portion of the site can be properly classified as either FUDS eligible or part of the operational range footprint. The attached figure shows the South Range Acquisition Area.

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern.

If further evaluation of the site determines that additional work is required, the SI for this site is planned for April 2006 through September 2007.

CLEANUP STRATEGY

The cleanup strategy for this site is described in the MMRP contamination assessment exit strategy for small use ranges.

Groundwater is located approximately 600 feet bgs and it can be assumed that groundwater contamination may not be of immediate concern but may be addressed during the RI if deemed necessary.

MMRP Schedule

Initiation of MMRP: 200305

Past Phase Completion Milestones
PA - 200309

Projected ROD/DD Approval Dates: None

Projected Construction Completion: 2017

Schedule for Five Year Reviews: Unknown

Estimated Completion Date of MMRP including LTM: 204809 (Indefinite LUCs)

Prior Years Funds

Total Funding up to FY04: $0

FY05

Site Information	Expenditures	FY Total
SI		**$0**

Total Prior Year Funds: **$0**

Current Year (FY06) Requirements

Site Information	Requirements	FY Total
SI		**$257,000**

Total Future Requirements: **$158,418K**

Total MMR Program Cost *(from inception to completion of the MMRP):* **$158,675K**

Interest for a RAB will be solicited once the RI is completed.